1:Spier E-5 (1918) 1928
NT14 Plateau Yumans NT14
Havasupai

224 animal at bay. They are bred to furnish good hunters, and castrated.[1]
[232] Dogs are called by name; such as *wakwaddid*, labia minora (a male dog),
gi'n,ikdwaid, referring to age, the dog having gray hair, and *idôa*,
552 painted (a brown dog with white patches.) Any dog is called to *'gaiyd*, *súgd*, *súgd*, dog, come, come, and driven off with *ast'*, *admigd*, go away.

Preparation of Food

Primitive peoples have more methods of preparing their food than
252 they are commonly credited with. The Havasupai, for instance, have innumerable ways of preparing corn, only a few of which—the result of casual observation—are recorded here.

The grinding slab, on which nearly all wild and cultivated seeds are
4/12 ground, is roughly rectangular, 80 by 50 cm., by 10 cm. thick. A smaller slab, carried with a moving camp, is 60 by 30 cm. A shallow oval, but
[324] nearly rectangular, depression is pecked in one face with a hammerstone. The stone of which they are made is so tough that the process of producing a proper trough is very lengthy: on this account they are highly prized. The mano (*va'ha'djd'a*) is roughly a prolate spheroid, 17–22 cm. long, with short diameters of 7.5 and 10 cm. The woman sits in front of
252 the slab which rests flat on the ground, with its face slightly tilted toward her. The corn, beans, etc., are first pounded with the end of the mano, and then crushed with a pounding, rocking motion of the stone. The meal is brushed off forward with the side of the hand into a tray basket. The chaff is separated by swinging the basket, throwing its contents into the air, and at the same time blowing off the lighter particles.[2] The clean meal is then replaced on the slab to be pulverized by grinding with an additional slight rocking motion, forward and back, and to a lesser extent sideways. There can be no doubt that the shape of the metate depres-
4/12 sion and mano among Indians in general is in part the result of the miller's movements. When not in use, the grinding slab is turned upside down with one edge resting on the mano to keep it clear of the ground. A brush is used for cleaning the metate. This is a bundle of mescal leaf fiber, 20 cm. long, bound with a cord for a distance of 4 or 5 cm. at the center.

Stone mortars (*[3]wigwetu'tid*; *[3]wi*, stone, *gwe*, something, *tútid*, to
[252] pound) are also used for pounding corn, piñon nuts, or dried meat. These measure 15 to 20 cm., with a hollow 10 cm. in diameter. The pestle (*va'ha'djd'a*, mano) is also stone.

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[231] [1]Dogs are not used for transportation, nor eaten so far as I know. The dogs of sixty years ago are said to resemble those of to-day, which in turn are in general similar to the North American breeds figured by Allen. Is it possible that they are relatively unmixed and therefore worth study?
[2]Illustrated in Mason, O. T., (k), Plate 109.

1/A [i.e., hunting dogs.—Analyst]

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415 Gourds having an hourglass shape are used as water jugs on foot journeys. They are carried at the middle of the back, held by a rope which passes around the traveler's waist and the constricted portion of the gourd.

Knives. The stone knife (*kwaiyd'l;* also arrowhead) is lanceolate,
● 324 as large as one's hand, sharp on both edges, somewhat pointed, but with
412 a blunt base. Obsidian is preferable, but flints are used. It is not known whether such knives were hafted: they are no longer made. Another knife (50.2–1219) is a broad flake, with long chips struck from one face only. This is conveniently held between thumb and forefinger.

Cutting movements, as in wood working, are always toward the body.

Stone is not drilled; drilled beads are obtained elsewhere, as among the Hopi. Holes are drilled in wood, bone, or horn (as in the arrow wrench) with an arrowhead, revolving the shaft between the palms.

Sleeping Mats. These (*tcĕkedlákwi'vd*) are made of strips of cedar or
285 juniper bark (*tcĕkedld*) pounded until soft, but not rolled into rope. The larger mats are rectangular, 1 m. by 75 cm., woven with both warp and continuous weft of bark. The ends are bound by stitching with a cord at 2 cm. intervals. Smaller mats are used, and owned, by children. These
[422] are somewhat elliptical, with nearly parallel sides. The warp, coiled from center outward, is crossed by twined wefts (cords) placed radially. Neither blankets nor clothing are made of cedarbark.

Rope. Ropes are usually of yucca fiber, but tanned hide is also used.
283 The inner leaves of a dead broad-leaf yucca are selected, pounded singly between two smooth stones, and flexed with the fingers to remove the connective tissue. The fibers are finally separated by continuing the flexing of a bundle of such leaves rendered pliable with water.

Yucca ropes are three- to six-ply, usually three. These are braided of bundles of fiber; the bundles are never rolled into strands. New lengths are introduced, as required, by simply laying them between two crossing elements. If the fiber is dampened the rope will shrink tight. Three-ply ropes are commonly about four meters long and 1.5 cm. in diameter.

The hide ropes may be of deer, antelope, or mountain sheep skin; the last is strongest.[1] These are also braided of three to six strands. One seven-ply specimen (50.2–1231), nearly six meters long, is flat (0.5 by 1.2 cm.) and the plaiting presents a herring-bone pattern on both sides.

[1] Curiously my informant referred to all articles derived from this animal as best.

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been drilled. Straightness is determined by sighting. The arrows are next cut to proper length; for use with the self bow, from tip of forefinger to top of biceps; for the sinew-backed bow, from tip of middle finger to bottom of biceps. (This may apply to wooden arrows only). Reed arrows in the collection measure 75 to 76 cm., of which 15 cm. is foreshaft; willow arrows, 70 to 73 cm.; and boys' reed arrows, 72 to 77 cm. with 9to 12 cm. foreshafts. Willow shafts are trimmed with a knife which like all knife movements is toward the body—and then rubbed between two grooved gritstones (*patamdlia*) of pumice held in the hand. The shaft is a true cylinder of the diameter of arrow reeds except for a slimmer section where the feathers will be bound and for a flare at the nock. The nock (*padjdtaûigd*) is next cut; in a reed arrow this comes just above a joint. The foreshaft for the reed arrow is also willow, trimmed to size, about 15 to 20 cm. long, and pointed at both ends. After this is painted red, it is glued into the pith channel of the reed. The end of the shaft is then wrapped for 2 to 3 cm. with sinew, fastened with glue, to prevent it splitting. Finally the foreshaft is split to receive the arrowhead, which is wet in the mouth, glued in, and tied on with sinew, which is not, however, glued (Fig. 24b). It is prayed to that it may stay tight. Many arrows, used for small game, have simply a sharpened foreshaft.

Stone arrowheads range from 3 to 6 cm. in length; the smaller are placed on reed arrows, the larger on wooden shafts. These are triangular, with a deep, square notch in the base, and with the cutting edges reaching almost to the base. If an arrowhead tends to work loose, it is nicked well up the side to aid in retying. Stone heads were flaked on the heel of the hand with an antler tip cylinder. Bone or antler arrowheads are not used. Blunt points for stunning small game are not manufactured, but a corncob may be placed on the point of the foreshaft for this purpose.[1]

Willow arrows are often decorated with one to three zigzag or wavy grooves (*dpdcd'ui'ga*) running the length of the shaft, representing lightning (*vltal'dja*). These are made with a tool consisting of a wooden block with a groove across one face into which there protrudes the point of a knife thrust through from the back. The shaft is drawn through the groove, rocking it slightly, so that the point may trace a sinuous line.

The eagle and hawk furnish the best feathers for arrows, those of a smaller blue and gray hawk and possibly other birds are also used. Young

[1] It is curious that the metal points that are made have the series of rounded shoulders where the tang joins the blade which occur in early trade examples found in eastern United States.

462 that his womenfolk may have assisted in this casual way in former times
[476] when hides were tanned in plentiful supply for trade that would benefit the
[281] whole family.

Clothing manufacture was men's work, and a man cut and stitched for
[294] himself and all his dependents. However, as might be expected, influences
[177] brought a reversal of sex roles in this occupation. Availability of woven materials and of ready-made clothing brought a change of style also. Cotton dresses at first were stitched by hand, but today a few women use treadle sewing machines. Spier (personal communication, 1957) records
[114] that there were a couple of treadle sewing machines in use in 1918. All men's clothing and much of that worn by women is purchased ready-to-wear.

As mentioned previously, puberty dresses continued to be made by men as long as they were in vogue, and a few of the older men still know how to make them.

The art of chipping stone points has been in disuse for so long that
[324] several informants denied that the Havasupai ever made them. One old
[821] man explained that old men in his youth told him that points for arrows and spears came down to the earth on lightning, fell on trees, and slid to the ground unbroken for Havasupai use. Another man said that the Havasupai obtained stone points by picking up those shot at them by Apaches.

At the present time, points of fine workmanship and a variety of types and sizes may be picked up in the canyon, but younger informants urged me not to let the older people know I had collected any. As one woman
[775] phrased it, "In the old days they belonged to people who are dead, and it might bring a ghost around if you handle them." The same request was made concerning potsherds, which abound in a profusion of types. However, an archeologist was able to obtain permission to excavate in the canyon a couple of years later.

Women's Work

Women, exclusively, plaited sleeping mats, while both men and women braided yucca or tanned hide rope. It is likely that both sexes had a hand in preparation of materials and fabrication of the rubbed cedarbark slow match and of braided cotton cord which formed part of the strike-a-light. Springs and mattresses, hemp or nylon rope, and matches have replaced these articles, although young boys and men occasionally braid quirts.
[177] Women commonly made rabbitskin blankets, now no longer used, but they
[237] were sometimes assisted by old men. Cradleboards, still used for every baby, are made by women who also prepare the materials, but a woman may send her husband to gather willows for this purpose.